Avery Weigh-Tronix

WI-127 Inbound/Outbound User's Manual

Table of Contents

Pages are numbered consecutively beginning with the cover page.

Specifications

Power requirements:
115 Volts AC, +10% to -15% @ 0.3Amp maximum
230 Volts AC, +10% to -15% @ 0.15 AMP maximum
50 /60 Hz

Excitation: 10 Volts DC
Supports up to twelve 350-ohm weight sensors

Operational keys:
Five yellow standard keys: Zero, Tare, Print, Units, Select
Three function keys: **INBOUND/OUTBOUND**, **TARE REGISTER**, **CUTOFF**
Numeric keys: 0-9

Operational annunciators:
Gross, Tare, Net, Print, Zero, Motion
Under, Accept, Over, Cutoff, ID,
Three units of measure

Display: Eight digit, seven segment, 0. 8-inch high LED

Display rate: Selectable (1, 2, 5, 10)

Analog to digital conversion rate: 60 times per second

Unit of measure:
Three, independently programmable:
Pounds, kilograms, grams, ounces, ton, tonne, custom, Off

Capacity selections:
999,999 with decimal located from zero to five places

Incremental selections:
Multiples and sub-multiples of 1, 2, 5

Programmable selections:
Zero range, motion detection,
automatic zero tracking, five-point linearization.

Time and date/RAM:
Battery backed up real time clock and RAM are standard

Internal resolution: 6,291,456 counts per mV/V per sec.

Harmonizer™ digital filtering:
Fully programmable to ignore noise and vibration

Standard inputs:
Seven logic level inputs for functions such as tare, print, zero, units, select, gross and net.

Standard outputs:
Three outputs, open collector design
Relay power supply, 24 VDC at 150mA
Bi-directional serial port (RS-232 or RS-422/485 or 20mA current loop)

Self diagnostics:
Display, keys, inputs, outputs, serial port,
A to D converter, loadcell output display, voltages

Circuitry protection: RFI, EMI, and ESD protection

Options:
Two additional serial ports
BCD parallel
10 cutoffs
Analog output
0-5, 0-10 volts
1-5, 4-20, 10-50 mA

Operating temperature:
-40 to 140° F (-40 to 60° C)
100% relative humidity including washdown

Enclosure: NEMA 4X stainless steel enclosure

Dimensions:
12" W x 8" H x 4" D (without mounting bracket)
12.3" W x 11.0" H x 5.3" D (with mounting bracket)

Weight: 12.5 lb, 5.7 kg

Introduction

The WI-127 Inbound/Outbound is a microprocessor-driven weight indicator designed to interface with an electronic scale. Its purpose is to calculate net weight value and to transmit serially that value, along with other weighing information, to a printer, computer, or programmable controller.

A hallmark of the WI-127 Inbound/Outbound indicator is its versatility in adapting to a broad range of weighing applications requiring calculation of net value.

Two methods of net weighing are available:

Method 1: Inbound/Outbound Weighing allows you to live-weigh an empty or full container (or vehicle, etc.), with or without transmission of data. Later you may live-weigh the same container for calculation of a net value and transmission of data. The indicator will select the larger weight as the gross weight and always transmit a positive net weight. The first weighing of the container stores its value in memory so that similar weighing operations can continue in up to 300 other channels between the time of the first weighing operation and the second. The indicator will keep track of the number of transactions and accumulate the totals for each inbound/outbound channel.

Method 2: Using Multiple Tare Registers allows you to store tares in two different ways. You may:

- Live-weigh an empty container and store its tare value in one of 300 tare registers. Then do multiple live weighings with the same refilled container or with containers of equal tare weight value. The WI-127 Inbound/Outbound Indicator will use the tare value you stored in memory for calculation of net value and transmission of data.

- Enter using the keypad a predetermined weight value in one of 300 tare registers. Then do multiple live weighings with filled containers equal in weight to the memory-stored value for calculation of net value and transmission of data.

The indicator will also keep track of the number of transactions and accumulate the totals for each tare register.

Operations Mode

Operations mode contains all normal weighing operations. In this mode you can view or set the following parameters:

- inbound/outbound channels
- multiple tare registers
- cutoff registers
- target, over and under values
- time
- date
- identification number

Front Panel

The WI-127's front panel consists of 24 keys and fourteen annunciators.
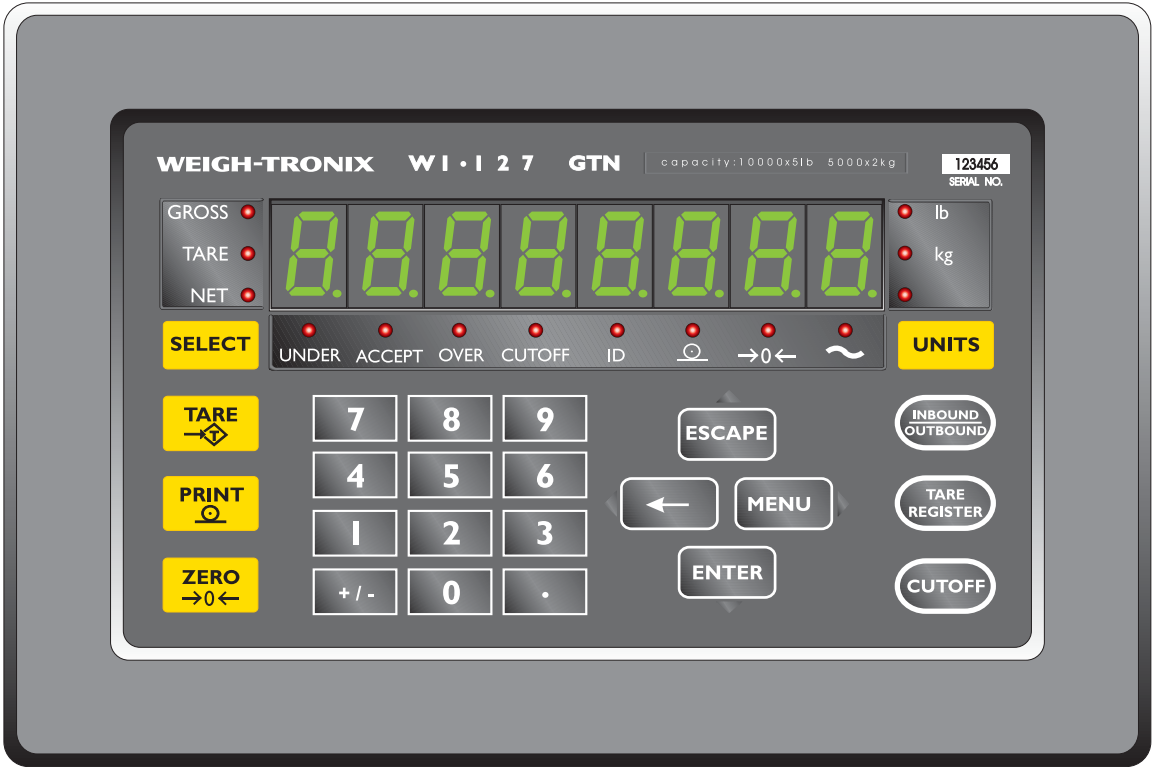
Figure 1
WI-127 Front Panel

Keys

Standard Scale Keys

The WI-127's keys are divided into four primary groups:

Standard Scale Keys These yellow keys are common to a majority of weighing applications and include SELECT, TARE, PRINT, ZERO, and UNITS.

SELECT	Used to switch between the gross, tare, and net display modes. SELECT can also be used to accept a current selection and return to weigh mode from within any menu.
TARE	Enters a pushbutton tare in the display mode. Can be configured to accept values through the numeric keypad.
PRINT	Used to initiate manual data transmission.
ZERO	Zeros the scale in the display mode. Also clears values in numeric entry.
UNITS	Switches the units of measure in the display mode. Up to three units of measure are selectable.

Function Keys

Operation of these keys changes with the software installed in the WI-127. (standard, in-motion, GTN)

These oval keys, along the right side of the display face, are configurable and are labeled **INBOUND/OUTBOUND**, **TARE REGISTER**, and **CUTOFF**. The default configurations for these keys are:

INBOUND/OUTBOUND   Accesses inbound/outbound GTN weighing function (see *Method 1*)

TARE REGISTER   Accesses multiple tare registers (see *Method 2*)

CUTOFF   Accesses cutoff registers (see *Cutoff Registers*)

Keypad Keys

These are the twelve square keys which support numeric entry. The keyboard keys are labelled 0-9, plus/minus (+/-), and decimal point (.) and are located near the center of the display face.

Directional Keys

The directional keys are used to navigate through the WI-127's menus. These keys are labeled ESCAPE (up), ENTER (down), ← (left), and MENU (right) and are positioned in a compass-like cluster on the display face. These directional keys are denoted by the small transparent arrows located next to them. ESCAPE, ENTER, and ← also support numeric entry.

ESCAPE   Exits a menu parameter without saving any changes.

ENTER   Used to end digit entry, accept a change made, or select an item from a function list.

←   Backspaces (deletes the last digit or punctuation mark entered) while in numeric entry and moves left within a menu.

MENU   Accesses menus and moves right within a menu.

Annunciators

The WI-127 has fourteen annunciators.

Gross   Illuminates when indicator is in gross weighing mode.

Tare   Illuminates when viewing tare values in the various tare registers.

Net   Illuminates when indicator is in net weighing mode.

lb, kg, other   Illuminates the active unit of measure in weighing mode.

Print   Illuminates when the indicator is transmitting data.

Zero   Illuminates when the scale is within ±.25% of increment center of zero.

Motion   Illuminates when the scale detects motion (within configured motion window).

Under, Accept, Over   Illuminates relative to respective values stored.

Cutoff   Illuminates when a cutoff entry is made.

ID   Illuminates in special display mode during which inbound and outbound (net) weights are displayed.

Gross Weighing

To perform gross weighing operations, follow these steps:

1. Power up the indicator.

   Indicator powers up in gross weighing mode.

2. Verify the scale is empty and zero the scale by pressing the **ZERO** key.

   Zero weight is displayed and the zero annunciator illuminates.

3. Select unit of measure by pressing the **UNITS** button.

   The units annunciator will illuminate next to the chosen unit of measure.

4. Place weight on the scale.

   Gross weight is displayed.

Method 1: Inbound/Outbound Weighing

The inbound/outbound weighing function stores inbound weight and time and date information in up to 300 channels. Then, when the outbound weighment is stored, the indicator peforms an accumulation and prints the net weight.

Capturing an inbound or outbound weight

The ***INBOUND/OUTBOUND*** key will work only if the indicator is in gross weighing mode.

Channel numbers may be from 1 to 6 numerals in length.

If a new channel was created or if the existing channel had no value for the inbound weight, the captured weight is stored as the inbound weight.

If the channel already had an inbound weight, the captured weight is stored as the outbound weight and is added to the accumulator total. After the outbound weight is printed, the inbound weight is cleared form the channel.

1. From gross weight display mode, press **INBOUND/OUTBOUND**.

   __ is displayed, prompting for a channel number.

2a. Enter a channel number using the keypad (this will either create a new channel or call up a previously entered one), or

2b. Use the **MENU** (forward) and ← (backward) keys to select a previously entered channel . . .

   The channel number is displayed.

3. With weight on the scale, press **ENTER** . . .

   The weight is captured and the indicator prints the transaction. At the end of an inbound/outbound operation, the inbound and net weights are displayed respectively for four seconds. The ID annunciator illuminates during this special mode.
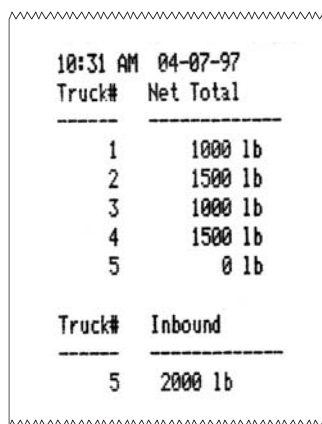
Inbound/outbound shortcut

To eliminate a keystroke, use the following shortcut for capturing a weight:

1. With weight on the scale, enter the channel number using the keypad . . .

   Channel number is displayed.

2. Press **INBOUND/OUTBOUND.**

   The weight is captured and the indicator transmits the transaction to a peripheral printer.

Printing a report

This utility is accessed from the Operations Menu shown in Figure 2. You may follow the steps below or refer to Figure 2 for a visual representation.

1. From weight display mode, press **MENU** . . .

   G.t.n. is displayed.

2. Press **ENTER** . . .

   rEPOrt is displayed.

3. Press **ENTER** . . .

   A report is printed. The default printout is a report of the GTN database information for each channel.

4. To return to weight display mode, press **SELECT**.

```
10:31 AM  04-07-97
Truck#   Net Total
------   ------------
   1       1000 lb
   2       1500 lb
   3       1000 lb
   4       1500 lb
   5          0 lb

Truck#   Inbound
------   ------------
   5       2000 lb
```

An inbound/outbound report prints:

- the time and date

- all truck numbers in the database and their corresponding net totals

- all truck numbers that only have an inbound weight and their net totals.

Sample Inbound/Outbound Report

Editing and Deleting Channels

You may delete any or all of the channels in your WI-127. To do so, you must access the Operations Menu (Figure 2). The complete menu and descriptions are in the "Customizing the Indicator" section. Please refer to that section.

If your indicator is configured to allow editing of the inbound/outbound channels, you may also: the inbound hour, the inbound date, the accumulator value, and the transaction counter.

Method 2: Multiple Tare Registers

The multiple tare function provides up to 300 tare registers. Tare weights may be entered as a live weight (pushbutton tare) or as a keypad entered weight.

Defining Tare Registers

Use these instructions for creating new tare registers or for accessing previously entered registers. Up to 300 registers may be used.

Creating New Registers or Accessing Existing Registers

1. From weight display mode, press **TARE REGISTER** . . . The current tare register number is displayed. (If no tare registers are present, __ is displayed, prompting you to enter a tare register number.)

2a. If creating new registers, enter in the register number using the keypad, or

2b. If registers already exist, enter in the register number using the keypad, or use the **MENU** (forward) and ← (backward) keys to select a tare register . . . The tare register number is displayed.

3. Press **ENTER** . . . The tare value in that register is displayed.

You are now ready to enter tare values into these registers. Follow the instructions in the following section *Entering and/or Editing Tare Register Values.*

Entering and/or Editing Tare Register Values

Once you have accessed a tare register, you may enter new tare values or edit existing values. Following is the standard procedure.

1. With the tare value displayed, you can enter/edit a tare value in a register in two ways:

a. **Key in a tare value:**
Key in your desired tare value using the keypad, then press **ENTER** . . . The tare value is accepted and the ndicator returns to net display mode.

or

b. **Use the pushbutton tare:**
With the tare weight on the scale, press **TARE** . . . The new tare value (the weight on the scale) is displayed and accepted.

Clearing/Deactivating Tare Register Values

To clear a tare register value, use the keypad to set the value to zero.

Editing and Deleting Tare Registers

Multiple tare registers in the WI-127 may be edited: you may change the tare value, the net accumulator total, and the transaction counter. You may also clear values from individual or multiple registers and you may delete any or all of the tare registers.

To edit and delete tare registers, you must access the Operations Menu (FIgure 2). The complete menu and descriptions are displayed in the section *Customizing the Indicator*. Please refer to that section for editing and deleting.

Net Weighing

*You may view the current or active tare value at any time during a weighing process. From gross or net weighing mode, press **SELECT** until the tare annunciator illuminates. If a tare value is in use, it will be displayed.*

To perform net weighing with a tare register, the register must already exist and have a tare value stored in it. If you have already set up your tare registers and are ready to perform net weighing operations, proceed to the next section. If you still need to create your tare registers, refer to the section *Defining Tare Registers* on the previous page.

1. From the weight display mode, enter the desired tare register number using the keypad . . .   Tare register number is displayed.

2. Press **TARE REGISTER** . . .   Tare value is displayed in net mode.

3. Place weight on the scale . . .   Net weight is displayed.

4. Press **PRINT** . . .   A printout including time, date, tare register number, and gross, tare, & net weights is performed.

Printing a Report

This utility is accessed from the Operations Menu shown in Figure 2. You may follow the steps below or refer to Figure 2 for a visual representation.

1. From weight display mode, press **MENU** . . .   ***G.t.n.*** is displayed.

2. Press **MENU** again . . .   ***tArES*** is displayed.

3. Press **ENTER** . . .   ***rEPOrt*** is displayed.

4. Press **ENTER** again . . .   A report is printed. The default printout is a report of the tare database information for all active tare registers. (See *Method 2* for an example of the default printout.)

5. To return to weight display mode, press **SELECT**.

Cutoff Registers

The standard WI-127 includes three cutoffs. Adding the optional cutoff card raises this number to ten.

When activated (weight on the scale is less than the weight in the cutoff registers), these cutoffs are all on at the same time. Each cutoff will deactivate as soon as the weight on the scale matches the value in each cutoff register.

Cutoffs may be positive or negative values.

Viewing cutoffs

Cutoff registers may be viewed by two methods:

Method A:

1. Press the **CUTOFF** key. . .

    1 xx is displayed. The number *1* stands for cutoff register #1 and *xx* is the current value in register 1.

2. Continue pressing **CUTOFF** or **MENU** to scroll forward or ← to scroll backward through the remaining cutoff registers.

Method B:
If you know which cutoff register you wish to view, press the number of that register, then press **CUTOFF**. That particular cutoff register is displayed. You may scroll through the remaining registers by pressing the **CUTOFF** key consecutively.

*Press **ENTER** at any time to exit the cutoff register menu.*

Entering cutoff values

To enter a cutoff value,
1. Press **CUTOFF** until the cutoff register you wish to set is displayed.

    3   0 (for example).

2. Enter the cutoff value in one of two ways:

2A. Key in the correct cutoff value using the keypad . . .

    3   xx is displayed.

or
2B. With active weight on the scale, press **TARE** . . .

    The active weight is set as the cutoff value.

*Press **ENTER** at any time to exit the cutoff register menu.*

3. Press **MENU** or **CUTOFF** to accept the value and move to the next cutoff register.

4. To return to weight display mode, press **SELECT**.

Clearing/deactivating cutoff values

To deactivate or clear a cutoff value, set the value to zero.

Checkweighing

Setting Target and Over/Under Values

The ACCEPT *annunciator does not illuminate when target = 0.*

The WI-127 is configured to perform checkweighing functions. The checkweighing parameters are accessed through the Operations Menu shown in Figure 2.

The target value must be considered when determining values to enter for over and under. Depending on the target values, the over/under values can be entered as either actual weight values or as tolerance values.

If the target value is zero, you may enter over and under values as actual weight. For example, if the **target** = 0, **over** might = 100 lbs, and **under** might = 50 lbs.This means that any weight between 50 lbs and 100 lbs is acceptable.

If the target value is a value other than zero, the over and under values must be set as tolerances. For example, if **target** = 100, **over** might = 10, and **under** might = -10. This means that any weight between 90 and 110 lbs is acceptable.

1. Press **MENU** until. . .   *boundS* is displayed.

2. Press **ENTER** . . .   *OVEr* is displayed.

3. Press **ENTER**. . .   The over tolerance is displayed and the *OVER* annunciator illuminates.

4. Using the keypad, enter the new over tolerance value. . .   New value is displayed.

5. Press **ENTER**. . .   *OVEr* is displayed.

6. Press **MENU**. . .   *UndEr* is displayed.

7. Press **ENTER**. . .   The under tolerance is displayed and the *UNDER* annunciator illuminates.

8. Enter the new under tolerance value. . .   New value is displayed.

9. Press **ENTER**. . .   *UndEr* is displayed.

10. Press **MENU**. . .   *tArgEt* is displayed.

11. Press **ENTER**. . .   The target value is displayed and the *ACCEPT* annunciator illuminates.

12. Enter the new target value. . .   New value is displayed.

13. Press **ENTER**. . .   *tArgEt* is redisplayed.

14. After entering all new values, press **SELECT**. . .   Indicator returns to display mode.

Checkweighing Operation

1. With the indicator in display mode, verify the scale is empty and zero the scale by pressing the **ZERO** key. . .

   Zero weight is displayed and the zero annunciator illuminates.

2. Select the unit of measure by pressing the **UNITS** button. . .

   The units annunciator will illuminate next to the chosen unit of measure.

3. Place weight on the scale. . .

   Weight will be displayed and the *UNDER*, *ACCEPT* or *OVER* annunciator will illuminate.

Customizing the Indicator

The ID number, time, and date are accessed through the Operations Menu shown in Figure 2. You may follow the instructions in this section or refer to Figure 2 for a visual representation.

Viewing and Setting Time

1. From display mode, press **MENU** until. . .

   Hour is displayed.

2. Press **ENTER**. . .

   The current time is displayed.
   In the 12-hour clock configuration time is displayed as hours, minutes, and *A* for A.M. and *P* for P.M. (e.g. *09 40 A*).
   In the 24-hour clock configuration time is displayed as hours, minutes, and seconds (e.g. *09 40 30*).

3. Press **UNITS** to toggle between the 12 hour and 24 hour clocks.

4. **To set the 12 hour clock**:
   a. Key in the time as **hh mm**.
   b. Press the **+/-** key to toggle between A.M. & P.M.
   c. After the correct time is entered, press **ENTER** to accept the new time.

   To set the 24 hour clock:
   a. Key in time as **hh mm ss**.
   b. After the correct time is entered, press **ENTER** to accept the new time.

If you enter an incorrect digit, press ← to clear the display one digit at a time.

5. Press **ENTER** to view the new time. . .

   The new time is displayed.

6. Press **ESCAPE** to return to display mode. . .

   Indicator returns to display mode.

Viewing and Setting the Date

1. From display mode, press **MENU** until. . . — **dAY** is displayed.

2. Press **ENTER**. . . — The date is displayed as month-day-year.

If you enter an incorrect digit, press ← to clear the display one digit at a time.

3. To change the date, key in the new date using the numeric keypad (the entire date must be entered), then press **ENTER**. . . — The new date is accepted and **dAY** is redisplayed.

4. Press **ENTER** again to view the new date
   or
   Press **ESCAPE** to return to display mode. . . — Indicator returns to display mode.

Viewing and Editing the ID Number

The ID number may be up to 8 digits in length. It may include any combination of the numbers 0 through 9, dashes, and one decimal point.

Viewing the ID number

1. From display mode, press **MENU** until. . . — **id.** is displayed.

2. Press **ENTER**. . . — The current ID number is displayed.

3. After viewing, press **ESCAPE**. . . — Indicator returns to display mode.

Editing the ID number

1. From display mode, press **MENU** until. . . — **id.** is displayed.

2. Press **ENTER**. . . — The current ID number is displayed.

3. Enter your new ID number using the keypad. If you make a mistake entering the new ID number, use the ← key to backspace and delete the incorrect digits. . . — New ID number is displayed.

4. With your new ID number displayed, press **ENTER**. . . — The new ID number is saved and the indicator returns to display mode.

Operations Menu

Your WI-127 is configured to display and edit inbound/outbound functions, multiple tare registers, time, date, identification number, and checkweighing functions in the Operations Menu. These parameters can be viewed and changed if allowed. **This manual assumes the unit is configured to allow full access to these functions**.

To enter the Operations Menu press **MENU**. Use the directional keys to maneuver through this menu:

ESCAPE = up
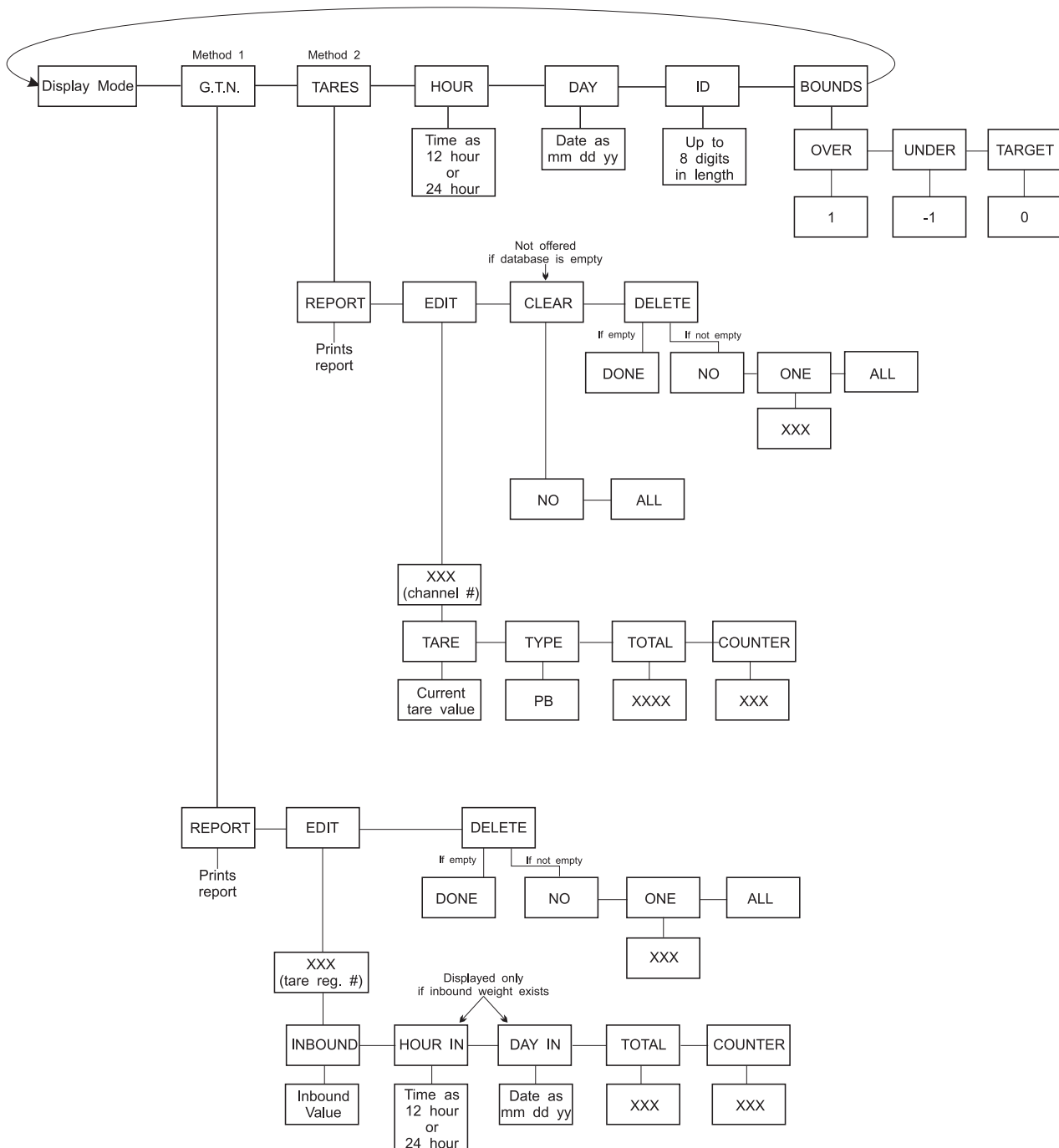**ENTER** = down
← = left
MENU = right

Figure 2
Operations Menu

Description of Operations Menu

Following are descriptions of the various options in the Operations Menu. The indentations represent levels within the menu.

G.T.N. Accesses inbound/outbound functions (Method 1).

  Report Prints the group assigned to this function.

    Edit Allows viewing/editing of channel information. When the edit parameter is sealed, values may be viewed only, not edited (refer to the Service Manual).

    XXX The current channel is displayed as the default. Scroll through the existing channels by using the **MENU** (forward) and ← (backward) keys.

      Inbound Displays inbound value. *None* will be displayed if an inbound weight does not exist. Press "0" and ENTER to clear the inbound weight.

      Hour In Displays time of inbound weight. This parameter is only offered if an inbound weight already exists.

      Day In Displays date of inbound weight. This parameter is only offered if an inbound weight already exists.

      Total The net accumulator value for the selected channel.

      Counter The transaction counter for the selected channel.

  Delete Allows user to clear the channel database. If the database is already clear, *dOnE* will be displayed and the remaining parameters will not appear.

    Done Offered only if the database is empty.

    No Will not delete the channels. Not offered if database is empty.

    One Allows user to select a specific channel to delete. Not offered if the database is empty.

    All Allows user to delete all channels at one time. Not offered if database is empty.

TARES Accesses multiple tare registers (Method 2)

  Report Prints the group assigned to this function.

  Edit Allows viewing/editing of channel information.

    XXX The current tareregister is displayed as the default. Scroll through the existing registers by using the **MENU** (forward) and ← (backward) keys.

      Tare Displays the current tare value.

      Type Displays the type of tare. *Pb* indicates a pushbutton tare entered by using the **TARE** key. *EntErEd* indicates a tare that was entered through the keypad.

      Total The net accumulator value for the selected register.

      Counter The transaction counter for the selected register.

  Clear Allows user to clear the accumulators and transaction counters for the tare registers. Not offered if the database is empty.

    No Will not clear the accumulators and counters.

    All Clears the accumulators and counters for all tare registers but leaves the tare values intact.

Delete		Allows user to delete tare registers. If there are no tare registers to delete, **dOnE** will be displayed and the remaining parameters will not appear.
	Done	Offered only if the register database is empty.
	No	Will not delete the registers. Not offered if database is empty.
	One	Allows user to select a specific tare register to delete. Not offered if the database is empty.
	All	Allows user to delete all tare registers at one time. Not offered if database is empty.
HOUR		Allows the user to set the time.
DAY		Allows the user to set the date.
ID		Allows the user to select and change the indicator's identification number.
BOUNDS		Provides access to the checkweighing parameters.
Over		Allows user to set the over value.
Under		Allow the user to set the under value.
Target		Allows the user to set the target value.

Serial Communication

The WI-127 has a bi-directional serial port with RS-232, RS-485/422 or 20 mA current loop communication capability. Your unit may be customized to print according to your needs. Refer to a Service Manual for instructions on customizing the printouts.

Method 1: Inbound/Outbound Printouts

Following are examples of the five default printouts of the WI-127.

Inbound Ticket

```
Date 04-07-97
Inbound Time 10:30 AM
Truck#      4
Transaction    1
Weight  1500 lb
```

Outbound Ticket

```
Date 04-07-97
Inbound Time 10:30 AM
Outbound Time 10:30 AM
Truck#      4
Transaction    1

Gross   3000 lb
Tare    1500 lb
Net     1500 lb
```

An inbound ticket prints the date, inbound time, truck number, transaction number, and inbound weight. This ticket is automatically printed after each transaction/

An outbound ticket prints the date, inbound time, outbound time, truck number, transaction number, and the gross, tare and net weights. This ticket is automatically printed after each transaction.

Inbound/Outbound Report

```
10:31 AM  04-07-97
Truck#   Net Total
------   --------------
     1        1000 lb
     2        1500 lb
     3        1000 lb
     4        1500 lb
     5           0 lb

Truck#   Inbound
------   --------------
     5        2000 lb
```

An inbound/outbound report prints the time and date, all truck numbers in the database and their corresponding net totals, and all truck numbers that only have an inbound weight and their net totals. The Operations Menu must be accessed to print this report.

Method 2:
Tare Register Reports

Tare Transaction

```
10:46 AM  04-07-97
Tare#      4
Gross  3000 lb
Tare   2000 lb KP
Net    1000 lb
```

When the **PRINT** key is pressed while using a tare register, a printout is performed which includes time, date, the tare register number, and gross, tare, and net weights. The tare weight includes the type of tare: KP if the tare was entered via the keypad or PB if the tare value was entered using the **TARE** key.
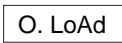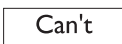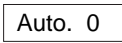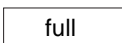
Tare Report

```
10:46 AM  04-07-97
Tare#    Net Total
------   --------------
     1           0 lb
     2        1500 lb
     3           0 lb
     4        1000 lb
     5           0 lb

Tare#    Tare wt.
------   --------------
     1         500 lb PB
     2        1000 lb KP
     3        1500 lb PB
     4        2000 lb KP
     5        1000 lb PB
```
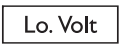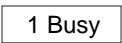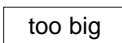
A tare register report includes, time, date, all existing tare registers with their net totals, and all existing tare register with their tare values and type of tare. The Operations Menu must be accessed to print this report.

Error Messages

The following are displays you may see if problems occur or if invalid operations are attempted with your WI-127:

Display	Description
O. LoAd	Overrange weight.
_ _ _ _ _ _	Underrange weight.
- - - - - -	Recovering from lock-up or out of range condition.
Loc' up	A-D converter is not functioning.
L.C. Error	A-D converter subjected to an input signal beyond ±5.00000 mV/V
Can't	The unit cannot perform a function. Displayed only while key is held down.
Flashing *	Corrupted data in the reset menus. See the *Service Manual*. (* = RESET, SETUP, or CAL)
Sealed	Displayed while a key is pressed when attempting to modify a sealed selection without edit privileges.
Auto. 0	Displayed while waiting for a stable, valid weight to use as a zero reference on power-up.
Lo. Volt	Displayed when input voltage to excitation regulator drops below 10.5 VDC. Will clear when input voltage rises above 11.5 VDC.
1 Busy	Displayed when the ready/busy handshake has exceeded its time out limit. Default is 2 seconds. This can also apply to optional 2nd and 3rd serial ports.
too big	Displayed when the net accumulator exceeds its maximum value. Message will appear when trying to view the accumulator total.
full	Displayed if the tare register value does not exist and the memory is full. Displayed only while key is held down.

Indicator Diagnostics

Test Mode

The test mode is used to test various functions of the WI-127. The test menu is shown in Figure 3.

To enter the test menu:

1. Press and hold **ESCAPE** for
   two seconds. . .   ***About*** is displayed.

2. Press **MENU** two times. . .   ***tESt*** is displayed.

3. Press **ENTER**. . .   ***diSPLAY*** is displayed.

Maneuver through the parameters using the directional keys:

ESCAPE	=	up
ENTER	=	down
←	=	left
MENU	=	right

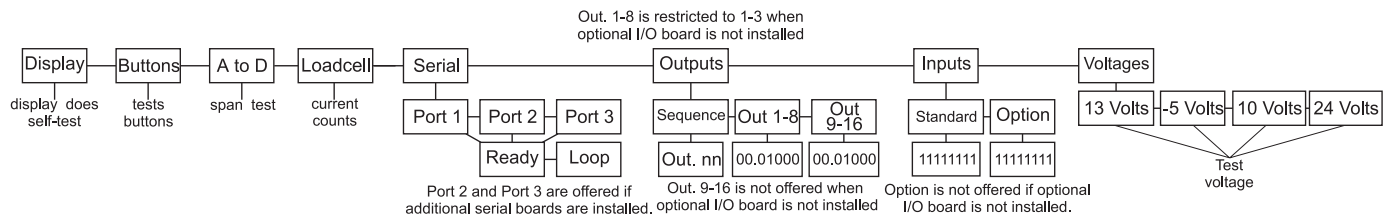You may exit to display mode at any time by pressing **SELECT**.

Figure 3
Test Menu

Below are the explanations for the items you see in the test menu.

Display — Performs a test of the display segments and LEDs. With ***diSPLAy*** displayed, press **ENTER** once to initiate an automatic test. Press **ENTER** again to stop the automatic test, or press ¬ and **MENU** consecutively to step through the display test manually. Press **ESCAPE** to exit the display test.

Buttons — Performs a test of the keypad. With ***buttonS*** displayed, press **ENTER** and the word ***nOnE*** will appear on the screen. Press any key except **MENU** to check for proper key functioning. The title of each key will appear on the display as it is pressed. After testing the buttons, press **MENU**.

A to D — Performs A-to-D test to check the raw offset and gain of the electronics. With ***A to d*** displayed, press **ENTER** to view the A-to-D value. The span is 20,000 counts per millivolt per volt. Press **ESCAPE** to return to ***A to d***.

Loadcell — Displays the factory normalized loadcell input. With ***LOAdCELL*** displayed, press **ENTER** to view the counts. Press **UNITS** to toggle between the counts display mode and mV/V display mode. Span is 200,000 counts per millivolt per volt. Press **ESCAPE** to return to ***LOAdCELL***.

Serial — Allows testing of the internal serial ports. With ***SEriAL*** displayed, press **ENTER** to select the port to test. Port 1 is always the internal serial port. (Port 2 and 3 are only offered if extra serial ports are installed.) Press **ENTER** again to view ready/busy. Then press **MENU** to view loop/no loop. Press **ESCAPE** to return to ***SEriAL***.

Outputs — Allows testing of the outputs. With ***OutPutS*** displayed, press **ENTER** twice to cycle through the available outputs in sequential order. Press **ESCAPE**— ***SEqUEnCE*** is displayed. Press **MENU** to view the available outputs. Press **ENTER** to view the status of the outputs. The outputs are numbered left to right, starting with one. A "1" indicates the output is activated; a "0" indicates the output is deactivated. To change the status of the ouput, move the decimal point to the right of the output you wish to change. Toggle the status by pressing **ENTER**. If the optional I/O board is installed, an additional eight outputs are available under ***Out. 9-16***. Press **ESCAPE** to return to ***OutPutS***.

Inputs — Allows testing of the inputs. With ***InPutS*** displayed, press **ENTER**—***StAndArd*** is displayed. Press **ENTER** again to view the status of each input. The inputs are ordered 1-8 from left to right. A "1" indicates the input is activated; a "0" indicates the input is deactivated. If the optional I/O board is installed, an additional eight inputs are available under ***OPtion***. Press **ESCAPE** twice to return to ***InPutS***.

Voltages — Allows testing of the power supply voltages. With ***VoltAGES*** displayed, press **ENTER** to test the unregu-lated loadcell excitation power supply voltage (13 volts). Press **MENU** repeatedly to scroll through the remaining power voltages: the -5 volt excitation voltage (-5 volts), the unregulated 5 volt logic supply voltage (10 volts), and the relay supply voltage (24 volts). Press **ESCAPE** to return to ***VoltAGES***.

Avery Weigh-Tronix